

Rule 74.30 Wood Products Coatings (Adopted 5/17/94, Revised 9/10/96,
11/11/03)

A. Applicability

The provisions of this rule apply to any person who manufactures, supplies, uses, or specifies the use of wood products coatings for commercial use.

B. Requirements

1. No person shall use any coating on a new wood product or a new product made of simulated wood materials which has a ROC (reactive organic compound) content, as applied, exceeding the applicable limit specified below:

<u>COATING</u>	ROC LIMITS			
	Grams Per Liter and			
	Pounds per Gallon of Coating,			
	<u>Less Water and Exempt Compounds</u>			
	On and After		On and After	
	7/1/1995		7/1/1996	
	<u>(g/L)</u>	<u>(lb/gal)</u>	<u>(g/L)</u>	<u>(lb/gal)</u>
Clear topcoats	275	(2.3)	275	(2.3)
Filler	500	(4.2)	275	(2.3)
High-solid Stains	700	(5.8)	240	(2.0)
Inks	500	(4.2)	500	(4.2)
Mold-seal Coating	750	(6.3)	750	(6.3)
Multi-colored Coating	275	(2.3)	275	(2.3)
Pigmented Coating	275	(2.3)	275	(2.3)
Sealer	240	(2.0)	240	(2.0)

<u>COATING</u>	ROC LIMITS			
	<u>Grams Per Liter of Coating</u>			
	On and After		On and After	
	7/1/1995		7/1/1996	
	<u>(g/L)</u>	<u>(lb/gal)</u>	<u>(g/L)</u>	<u>(lb/gal)</u>
Low-solids Stains, Toners, or Washcoats	480	(4.0)	120	(1.0)

2. No person shall use any coating in a refinishing operation necessary to repair, preserve, or restore a wood product which has a ROC content, as applied, exceeding the applicable limit specified below:

ROC LIMITS
Grams Per Liter and Pounds per
Gallon of Coating,
Less Water and Exempt Compounds

<u>COATING</u>	On and After 7/1/1995	
	<u>(g/L)</u>	<u>(lb/gal)</u>
Clear topcoat	680	(5.7)
Filler	500	(4.2)
High-solid Stains	700	(5.8)
Inks	500	(4.2)
Mold-seal Coating	750	(6.3)
Multi-colored Coating	680	(5.7)
Pigmented Coating	600	(5.0)
Sealer	680	(5.7)

ROC LIMITS
Grams Per Liter of Coating

<u>COATING</u>	On and After 7/1/1995	
	<u>(g/L)</u>	<u>(lb/gal)</u>
Low-solids Stains, Toners, or Washcoats	480	(4.0)

3. No person shall use any stripper on wood products unless:
 - a. The ROC content is 350 grams per liter (2.9 lb/gal) of material or less; or
 - b. The ROC composite partial pressure of the stripper is 2 mm Hg (0.04 psia) or less at 20°C (68°F).
4. No person shall apply coatings to wood products unless the coating is applied with properly operating equipment, according to proper operating procedures, and by the use of one of the following methods:
 - a. electrostatic application, operated at a minimum of 60 KV;
 - b. flow coat;
 - c. dip coat;
 - d. high-volume, low-pressure (HVLP) spray;
 - e. paint brush;
 - f. hand roller;
 - g. roll coater;

- h. until July 1, 2000, sources using less than twenty gallons of compliant coatings per month may use air assisted, airless spray; or
 - i. such other coating application methods as are demonstrated to the APCO to be capable of achieving at least 65 percent transfer efficiency, and for which written approval of the APCO has been obtained.
- 5. Surface Preparation and Cleanup Solvent
 - a. No person shall use ROC-containing materials which have more than 200 grams of ROC per liter of material for surface preparation.
 - b. No person shall use ROC-containing materials for spray equipment cleaning unless:
 - 1) The system used:
 - a) Is an enclosed gun washer or "low emission spray gun cleaner" that has been approved in writing by the APCO and is properly used for cleaning; or
 - b) Has been demonstrated to the APCO to be as effective as the equipment described in the subparagraph above in minimizing the loss of the ROC-containing material to the atmosphere according the test method in Subsection E.4.
 - 2) The ROC composite partial pressure of organic solvent used is less than 45 mm Hg at a temperature of 20°C.
 - c. No person shall use ROC-containing materials for cleanup unless the ROC composite partial pressure of organic solvent used is less than 45 mm Hg at 20°C.
- 6. In lieu of the requirements of Subsections B.1, B.2, B.3 and B.4, emissions of ROC, excluding emissions from clean up operations, may be controlled by an emission capture and control system, which reduces ROC emissions to the atmosphere, provided that:
 - a. During any period of continuous operation not to exceed 24 hours, the capture and control system shall have a combined efficiency of at least 80 percent, by weight.
 - b. The collection system shall vent all drying oven exhaust to the control device and shall have one or more inlets for collection of fugitive emissions.
 - c. During any period of operation of a thermal incinerator, combustion temperature shall be continuously monitored.

- d. During any period of operation of a catalytic incinerator, exhaust gas temperature shall be continuously monitored.
 - e. Written approval for such equipment, in the form of an Authority to Construct and Permit to Operate, is received from the APCO.
- 7. Storage of ROC-containing materials: All ROC containing materials, including, but not limited to surface coatings, cleanup solvents, or surface preparation materials shall be stored in closed containers which are nonabsorbent and do not leak.
 - 8. No person shall specify the use in the District of any coating to be applied to any wood products subject to the provisions of this rule that does not meet the limits and requirements of this rule.
 - 9. The manufacturer of any coating or stripper subject to this rule shall designate on the coating container or on separate data sheet(s) the maximum VOC content of the coating, as supplied. The VOC content, except for low-solids stains, toners, and washcoats, shall be expressed as grams per liter of coating (less water and less exempt organic compounds).
 - 10. Cleaning and Stripping Material Compliance Statement: The manufacturer of liquid cleaning materials or strippers subject to this rule shall designate on product labels or data sheets the ROC content and ROC Composite Partial Pressure of cleaning materials as supplied. This designation shall include recommendations regarding mixing with any other ROC containing materials, and express the cleaning material ROC content when used in accordance with the manufacturer's recommendations. All letters and numbers used to designate ROC or VOC content on product labels shall be visible and legible. (Effective September 10, 1997)

C. Exemptions

- 1. The provisions of this rule shall not apply to aerosol coating products.
- 2. Sections B.1, B.2, B.3, B.4, and B.5 of this rule, shall not apply to any stationary source that emits less than 200 pounds of ROC in every rolling period of 12 consecutive calendar months from wood products coating operations. Any person claiming this exemption shall maintain monthly records to substantiate this claim. Emissions from aerosol products, cold cleaners, and vapor degreasers shall not be included in this determination.
- 3. This rule shall not apply to the coating of permanently installed building appurtenances such as cabinets, shutters, fences and handrails, except new appurtenances upon initial installation.
- 4. The limits in subsection B.1 and B.2 for Pigmented Coatings, Fillers, Washcoats, Sealers and Clear Topcoats shall not apply to the coating of wooden musical instruments.

D. Recordkeeping Requirements.

Any person subject to this rule shall:

1. Maintain a current file for each coating in use and in storage. The file shall include a data sheet or material list giving material name, manufacturer identification, specific mixing instructions, and ROC content as applied.
2. Maintain a current file for each solvent and stripper in use and in storage. The file shall include a data sheet or material list giving material name, manufacturer identification, ROC content and, if required, ROC composite partial pressure.
3. Maintain records on a daily basis showing the amount of coatings, strippers, and solvents used. Itemize each coating, stripper, and solvent and use the specific ROC content and density value for each. If only compliant coatings, strippers and solvents are used, these records may be kept on a monthly basis.
4. If compliance is achieved through the use of emission control equipment maintain daily records of key system operating parameters and maintenance procedures that demonstrate continuous operation and compliance of the emission control system during periods of emission producing activities. Key system operating parameters for emission control equipment are those necessary to ensure compliance with ROC content of coating requirements such as temperatures, pressures, and flow rates.
5. Inventory, usage, and emission control equipment operation records shall be retained for a minimum of two years and shall be made available to District personnel upon request.

E. Test Methods

1. Measurement of the ROC content of coatings, strippers, and solvents shall be conducted and reported in accordance with EPA Reference Method 24 and ARB Method 432 for determination of exempt compounds as necessary.
2. ROC composite pressure shall be calculated using a widely accepted published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973), Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company, CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87), and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985). The true vapor pressure of a component in a mix may be determined by ASTM Method D2879-86. The ROC composite pressure of a solvent mix consisting entirely of ROC may be determined by ASTM Method D2879-86.

3. Transfer efficiency shall be determined in accordance with South Coast Air Quality Management District method Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989.
4. The active and passive solvent losses from spray gun cleaning systems shall be determined using South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" dated October 3, 1989 or later. The test solvent for this determination shall be any lacquer thinner with a minimum ROC composite partial pressure of 105 mm Hg at 20°C. The minimum test temperature shall be 15°C.
5. The capture and control efficiency of air pollution control equipment shall be determined according to EPA's technical document, "Guidelines for Determining Capture Efficiency," January 9, 1995, and methods in 40 CFR 52.741 (a)(4)(iv) Control Device Efficiency Testing and Monitoring.

F. Violations

Failure to comply with any provision of this rule, including recordkeeping requirements, shall constitute a violation of this rule.

G. Definitions

For the purposes of this rule, the following definitions shall apply:

1. "Active Solvent Losses": The active solvent losses are the emissions during all steps of a spray gun equipment cleaning operation and are expressed in units of grams of solvent loss per cleaning cycle.
2. "Aerosol Coating Product"; A pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand held application, or for use in specialized equipment for ground traffic/marketing applications.
3. "Binders": Nonvolatile polymeric organic materials (resins) which form the surface film in coating applications.
4. "Clear Topcoat": A final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.
5. "Cleanup": The removal of uncured coating from any surface.
6. "Coating": A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.
7. "Dip Coat": Dip an object into a vat of coating material and drain off any excess coating.

8. "Electrostatic Application": Charging of atomized paint droplets for deposition by electrostatic attraction.
9. "Exempt Organic Compounds": As defined in Rule 2, Definitions, of these Rules.
10. "Filler": A composition that hardens on drying used to fill pores, cracks, or holes in a wood product prior to finishing.
11. "Flow Coat": Coat an object by flowing a stream of coating over an object and draining off any excess coating.
12. "Grams of ROC per Liter of Coating, Less Water and Exempt Organic Compounds": The weight of ROC per combined volume of ROC and coating solids calculated using the following equation:

$$\begin{array}{lcl} \text{Grams of ROC per Liter of Coating, Less} \\ \text{Water and Exempt Organic Compounds} & = & \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}} \end{array}$$

Where:

W_s	=	weight of volatile compounds in grams
W_w	=	weight of water in grams
W_{es}	=	weight of exempt organic compounds in grams
V_m	=	volume of material in liters
V_w	=	volume of water in liters
V_{es}	=	volume of exempt organic compounds in liters

13. "Grams of ROC per Liter of Material": The weight of ROC per volume of material shall be calculated by the following equation:

$$\text{Grams of ROC per Liter of Material} = \frac{W_s - W_w - W_{es}}{V_m}$$

Where:

W_s	=	weight of volatile compounds in grams
W_w	=	weight of water in grams
W_{es}	=	weight of exempt organic compounds in grams
V_m	=	volume of material in liters

14. "Gun Washer": Electrically or pneumatically operated system that is designed to clean spray application equipment while enclosed. A gun washer may also be considered a gun cleaning system that consists of spraying solvent into an enclosed container using a snug fitting.
15. "High-solids Stains": Stains containing more than 1 pound of solids per gallon, by weight, and can include wiping stains, glazes, and opaque stains.
16. "High-volume, Low-pressure (HVLP) Spray": Spray equipment using a high volume of air delivered at pressures between 0.1 and 10 psig and operating at a maximum fluid delivery pressure of 50 psig.

17. "Ink": A fluid, containing dyes and/or colorants, used to make markings but not used to protect surfaces.
18. "Low Emission Spray Gun Cleaner": Any properly used spray equipment cleanup device which has passive solvent losses of no more than 0.6 grams per hour and has active solvent losses of no more than 15 grams per operating cycle as defined by the test method in Subsection E.4.
19. "Low-solids Stains": Stains containing 1 pound of solids per gallon, or less, by weight.
20. "Mold-seal Coating": The initial coating applied to a new mold or repaired mold to provide a smooth surface that, when coated with a mold release coating, prevents products from sticking to the mold.
21. "Multi-colored Coating": A coating which exhibits more than one color when applied, and which is packaged in a single container and applied in a single coat.
22. "New Wood Product": A wood product or simulated wood product which has not been previously coated and from which cured coatings have not been removed. A wood product or simulated wood product from which uncured coatings have been removed to repair flaws in initial coatings application is a new wood product.
23. "Passive Solvent Losses": The passive solvent losses are the emissions from spray gun cleaning equipment when the equipment sits idle between cleaning cycles and are a result of natural evaporation from the equipment.
24. "Pigmented Coatings": Opaque coatings which contain binders and colored pigments which are formulated to hide the wood surface, either as an undercoat or topcoat.
25. "Reactive Organic Compound (ROC)": As defined in Rule 2, Definitions, of these rules. The term "volatile organic compound (VOC)" is equivalent to ROC.
26. ROC Composite Partial Pressure": The sum of the partial pressures of the compounds defined as ROCs. ROC composite partial pressure is calculated as follows:

$$PP_c = \frac{\sum_{i=1}^n \left(\frac{W_i}{MW_i} \right) (VP_i)}{\left(\frac{W_w}{MW_w} \right) + \sum_{e=1}^n \left(\frac{W_e}{MW_e} \right) + \sum_{i=1}^n \left(\frac{W_i}{MW_i} \right)}$$

Where:

W_i = Weight of the "i"th ROC compound, in grams

W_w = Weight of water, in grams

W_e = Weight of the "e"th exempt organic compound, in grams

MW_i = Molecular weight of the "i"th ROC compound, in g/(g-mole)
MW_w = Molecular weight of water, in g/(g-mole)
MW_e = Molecular weight of the "e"th exempt organic compound, in
g/(g-mole)
PP_C = ROC composite partial pressure at 20 C, in mm Hg
VP_i = Vapor pressure of the "i"th ROC compound at 20 C, in mm Hg.

27. "Refinishing Operation": The steps necessary to remove cured coatings and to repair, preserve, or restore a wood product.
28. "Repair Coating": A coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal painting operations.
29. "Roll Coater": A series of mechanical rollers that forms a thin coating film on the surface of roller, which is applied to a substrate by moving the substrate underneath the roller.
30. "Sealer": A coating, containing binders, which seals the wood prior to application of the subsequent coatings.
31. "Simulated Wood Materials": Materials, such as formica, glass, metal, plastic, etc., that are made to give a wood-like appearance or are processed like a wood product.
32. "Stencil Coating": An ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.
33. "Stripper": A liquid used to remove cured coatings, cured inks, and/or cured adhesives.
34. "Surface Preparation": Cleaning of a substrate to remove dirt, oils, and other contaminants. Surface preparation does not include stripping. Surface preparation is typically done prior to the application of surface coatings, adhesive bonding materials, or sealants.
35. "Toner": A wash coat which contains binders and dyes or pigments to add tint to a coated surface.
36. "Touch up Coating": A coating used to cover minor coating imperfections appearing after the main coating operation.
37. "Transfer Efficiency": The ratio of the weight of coating solids deposited on an object to the total weight of coating solids used in a coating application step, expressed as a percentage.
38. "Wash Coat": A coating that contains no more than 1.0 pound of solids per gallon, by weight, which is used to seal wood surfaces, prevent undesired staining, and control penetration.
39. "Wood Products": Those surface-coated room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas,

shutters, and art objects; and any other coated objects made of solid wood, and/or wood composition, and/or made of simulated wood material used in combination with solid wood or wood composition.

40. "Wood Product Coating Application Operations": A combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens, conveyors, and/or other equipment operated for the purpose of applying coating materials.